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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,668	12/04/2003	Shigeki Yamada	056207.52990US	5844

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CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER	
TRIEU, THAI BA	
ART UNIT	**PAPER NUMBER**
3748	

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/726,668	YAMADA ET AL.	
	Examiner	Art Unit	
	Thai-Ba Trieu	3748	

-- The MAILING DATE f this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-7* is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/04/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

This application is in condition for allowance except for the following formal matters:

a. IN THE SPECIFICATION:

- On page 3, Paragraph [0010], line 6, ***"rea ch"*** should be replaced by – **reach --**.

- On Page 4, lines 14-16, **"FIG. 1A, FIG. 1B, FIG. 1C"** should be replaced by -- **FIG. 4A, FIG. 4B, FIG. 4C** – (for correcting typo error).

- On Page 5, lines 23, ***"FIG. 18"*** should be replaced by – **FIG. 18 A --**; and after line 23, **-- FIG. 18B, and a brief description for FIG. 18 B –** (for incorporating with the drawings).

- On Page 6, Paragraph [0017], line 2, ***"2e"*** after ***"output shaft"*** should be deleted.

- On page 7, Paragraph [0019], line 4, ***"r otational"*** should be replaced by **-- rotational --**.

- Applicants should select either ***"motor drive"*** or ***"motor"*** to disclose through out the specification and claims to maintain the consistency of the whole application.

- Applicants should select either ***"stop position(s)"*** or ***"stopper position(s)"*** to disclose through out the specification and claims to maintain the consistency of the whole application.

b. IN THE ABSTRACT:

Since the abstract is too long, applicants are required to submit a substitute abstract to meet the requirement set forth below.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and gènerally limited to a single paragraph on a separate sheet within the ***range of 50 to 150 words***. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

c. IN THE CLAIMS:

Applicants are suggested to correct minor informalities in claims as following:

1. A position control method by motor [[dri ve]] **drive** comprising *(in one word)*:

rotating a rotor of said motor **drive** according to the given target opening, and detecting the opening of a movable vane by an encoder, said motor opening and shutting a passage of an intake air pipe to a turbo charger of [[the]] **an** automobile by the [[mov able]] **movable** vane *(for maintaining consistency, avoiding lacking antecedent basis in claims, and correcting typo error)*, and

controlling the movable vane in the passage of said intake air pipe [[so that it may]] **to** reach the target opening *(for avoiding rejecting claim under 112, second paragraph)*,

wherein

the rotational position of the motor **drive** is controlled to [[the]] **a** stop position in the direction where said movable vane is closed, and [[the]] **a** stop position in the direction where said movable vane is opened *(for maintaining consistency, and avoiding lacking antecedent basis in claims)*, and

the motor **drive** is controlled so that the passage of the intake air pipe [[may]] become the target opening by setting said stop position as an operation reference position of said motor **drive**, and setting between said stop positions as driving dynamic range of said motor*(for maintaining consistency, avoiding lacking antecedent basis in claims, and for avoiding rejecting claim under 112, second paragraph)*.

2. A position control method by motor drive according to claim 1, wherein the operation **of said rotor** which obtains the operation reference position of said motor **drive** is executed at power-on or when [[the]] **an** ignition switch is turned on or turned off *(for maintaining consistency, for avoiding rejecting claim under 112, second paragraph, and avoiding lacking antecedent basis in claims).*

3. A position control method by motor drive according to claim 1, wherein said motor **drive** is driven in a direction where the pipe to said turbo charger is opened and the direction where said pipe is shut by the driving force provided beforehand so that sticking at the stop position [[can be]] is avoided (*for maintaining consistency, and for avoiding rejecting claim under 112, second paragraph)*, and

[[When]] **when** the time that the signal of the encoder which detects said opening does not change elapses [[the]] **a** predetermined time, the positions of said encoder are set as a reference position for full open operation **of the movable vane** and a reference position for full close operation **of the movable vane** (*for avoiding rejecting claim under 112, second paragraph, and avoiding lack of antecedent basis in claims).*

4. A position control method by motor drive according to claim 1, wherein the control of revolution of the motor **drive** to the stop position in the direction where said movable vane is shut and the stop position in the direction where said movable vane is opened is executed when [[the]] **an** ignition switch is off *(for maintaining consistency, for*

avoiding rejecting claim under 112, second paragraph, and avoiding lacking of antecedent basis in claims).

5. A position control method by motor drive according to claim 1, wherein [[the]] **a** PID control is executed with the target opening changed into an open direction of the movable vane one by one, and the opening position is set as a stop position in an open direction of said movable when the state that the opening position counted by said encoder does not change continues during [[the]] **a** predetermined time *(for avoiding lacking antecedent basis in claims).*

6. A position control method by motor drive according to claim 1, wherein [[the]] **a** PID control is executed with the target opening changed into an close direction of the movable vane one by one, and the opening position is set as a stop position in [[an]] **a** close direction of said movable **vane** when the state that the opening position counted by said encoder does not change continues during [[the]] **a** predetermined time *(for avoiding lacking antecedent basis in claims).*

7. A position control unit by motor drive comprising:

a control unit including an interface circuit, a central processing unit and a motor driver which drives a motor **drive** according to a target opening signal *(for maintaining consistency)*; and

a motor rotational position detecting unit provided on an output shaft of the motor; and

an adjustable link united with **the/said** output shaft of the motor **drive**, which controls [[the]] opening and shutting of a movable vane in an intake air pipe to a turbocharger of an automobile according to the revolution of the motor **drive** *(for maintaining consistency, for avoiding double recitation and lacking antecedent basis in claims)*;

wherein

said motor is rotated to the stop position of said [[tur bo]] **turbo** charger in a direction where the intake air pipe is shut and the stop position in a direction where the intake air pipe is opened by the motor drive, and the position between said [[stopper]] **stop** positions is set as an operation reference position when said [[mot or]] **motor** works *(for maintaining consistency, and for correcting typo error)*.

Conclusion

The IDS (PTO-1449) filed on December 04, 2003 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Suganami et al. (Pub. Number 2003/0185672 A1) disclose an electronically controlled actuator.

- Vogt (US Patent Number 6,435,169 B1) discloses integrated motor and controller for turbochargers, EGR valves and the like.

- Eba (US Patent Number 5,101,143) discloses a spindle control system.

- White (US Patent Number 2,739,782) discloses a variable area turbine nozzle.

- Hitachi Car Electronics (Pub. Number JP 2003-148156 A) disclose a motor position apparatus for motor vehicle initializing motor operation such that output signal of encoder corresponding with air pressure adjustment signal of the controller.

- Daido Castings (Pub. Number JP 2004-138423 A) disclose a rotary structure imbalance measuring device for a turbine wheel, having Jig mounted on a rotary table for supporting turbine wheel such that the rotary axis of wheel is in alignment with the rotary axis of a spindle.

- Hitachi Car Electronics (Pub. Number JP 2004-234039 A) disclose a position controller for variable–wing turbocharger of a motor vehicle measuring and storing continuous drive time of an actuator and encoder counter value for each fixed time.

- Akaishi (Patent Number JP 62-237097 A) discloses a turbo fan provided with an encoder mechanism.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

However, the examiner' s new telephone number (751) 272-4867 will become effective after the expected changeover date of November 22, 2004.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTB
January 26, 2005

Thai-Ba Trieu
Primary Examiner
Art Unit 3748